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EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
2662	6

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/638,373

Applicant(s)

PAN ET AL.

Examiner

Gregory B Sefcheck

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/22/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final:
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

- Applicant's Amendment, filed 3/22/2004, is acknowledged.
- The objection to Claim 42 from the previous action is withdrawn.
- Claims 1-43 remain pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9, 11-13, 15-23, 25-27, 29-37, 39-41, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Bertin et al. (US005687167A), hereafter Bertin.

- In regards to Claims 1-2, 11, 15-16, 25, 29-30, 39, and 43,

Bertin discloses a method of allocating resources on a network. As illustrated in Fig. 2, Bertin shows the method implemented throughout the network utilizing computer software (claim 15 – computer program) and computer hardware (claim 43 - apparatus) comprising a memory and processor for storing and executing the resource allocation instructions (Col. 4, lines 45-58; claim 29 - apparatus comprising memory and processor for storing and executing instructions).

Referring to Fig. 1, Bertin shows a user specifying a connection request including the destination address for a reservation of network resources, such as bandwidth (Col. 12, lines 64-66; claims 1/15/29/43 – receiving a request for reservation of network resources including destination address; claims 11/25/39 – resources comprise bandwidth of network devices).

Bertin shows that a connection is setup/activated immediately upon receiving non-zero bandwidth replies from each node/link along the intended route (Col. 13, lines 48-55). Furthermore, Bertin shows that control messages are exchanged between routing points indicating when new links are activated (Col. 6, lines 5-23; claim 1/15/29/43 – receiving data indicating an activation time for resources).

Bandwidth resources on the transit nodes (network devices) are then allocated on a path to the end node (destination address) to accommodate the reservation if it is determined that the network devices have sufficient resources to accommodate the reservation (Fig. 1, steps 102-104; Col. 13, lines 1-12; claims 1/15/29/43 – allocating resources on network devices to accommodate the reservation if sufficient resources are available; claims 2/16/30 – determining if network devices on path to destination have sufficient resources to accommodate the reservation).

- In regards to Claim 3, 17, and 31 (constructing and storing a topology map; referencing the map when determining and allocating network resources),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses constructing and storing a topology database (topology map) at nodes of the network. Determining and allocating of network resources are performed by referencing the topology database (Col. 8, lines 50-51; Col. 13, lines 1-9).

- In regards to Claims 4, 18, and 32 (constructing topology map periodically to account for changes in the topology of the network),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin shows the topology database is updated (constructed) periodically to account for changes that have occurred in the network topology (Fig. 1, step 105; Col. 13, lines 13-17; Col. 15, lines 39-40).

- In regards to Claims 5, 19, and 33 (determine if reservation is permitted based on identity of transferor; allocate resources if reservation is permitted),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses determining if a reservation is permitted based on the Bandwidth Reservation Replies (identity) from the transit nodes and end node (transferor). Allocation of resources is then performed if it is determined that the reservation is permitted (Fig. 1, step 104; Col. 13, lines 10-12).

- In regards to Claims 6, 20, and 34 (allocating not performed if it is determined that the reservation is not permitted),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows that the allocating of resources is not performed if it is determined that the reservation is not permitted (Col. 13, lines 10-12, 60-62).

- In regards to Claims 7, 21, and 35 (allocating comprises installing filters on the network devices to allocate resources),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Referring to Fig. 1, Bertin further shows connection level control information (filter) applied (installed) at the transit and end nodes (devices) of the network. This information allows the bandwidth of the network device to be reserved (resources allocated; Col. 13, lines 1-17; Fig. 1, steps 103-105).

- In regards to Claims 8, 22, and 36 (installing filters at the time of resource activation),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows applying/installing the control information/filters at the time the connection is set up/activated based on the traffic characteristics (Col. 2, lines 22-30).

- In regards to Claims 9, 23, and 37 (allocating resources for different classes of service on the network),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows allocating resources for different priority groups (classes) of traffic (Abstract; Col. 3, lines 23-25; Col. 15, lines 5-7).

- In regards to Claims 12, 26, and 40 (determining if destination address has greater than a predetermined amount of bandwidth; allocating based on determining),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses allocating bandwidth based on determining if a link (destination address) has insufficient bandwidth available (predetermined amount of bandwidth; Fig. 1, steps 103-104; Col. 3, lines 57-58).

- In regards to Claims 13, 27, and 41 (allocating comprises communicating with the network devices),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses resource allocation comprising communicating with the transit nodes and end nodes (network devices) of the network (Fig. 1, steps 109-111; Col. 13, lines 5-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 14, 24, 28, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin in view of Ellesson et al. (US006459682B1), hereafter Ellesson.

- In regards to Claims 10, 24, and 38 (classes of service are defined in data packets to be transmitted over the network),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above. Bertin further discloses using information in the packet header of data to be transmitted over the network.

Bertin, however, does not expressly show that the data class of service is defined in the data packets.

Elleson discloses a method, apparatus and computer program implementation of controlling packet traffic (resource allocation) in an IP network. Elleson discloses encoding the traffic class into the headers of the data packets to be transmitted to determine their network priority (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the allocation method, apparatus and program of Bertin by explicitly defining the service class of data traffic within the data packet to be transmitted over the network, as taught by Elleson. This modification would provide class of service information for incoming data to each transit node without requiring the additional bandwidth of a separate information/signaling channel between each node along the path to the destination address.

- In regards to Claims 14, 28, and 42 (communicating takes place using COPS/RSVP protocol),

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above. Bertin further shows that the headers of the incoming data packets include Control Fields that includes an interpretation of the protocol used to communicate the routing information to each of the transit nodes along the path to the destination address.

Bertin does not expressly show this communication using the COPS/RSVP protocol.

Elleson discloses a method, apparatus and computer program implementation of controlling packet traffic in an IP network. Elleson shows an RSVP protocol-based reservation system for communicating bandwidth allocations to network devices (Col. 3, lines 3-7).

It would have been an obvious design choice to implement the allocation method, apparatus and program of Bertin by communicating with the network devices using the COPS/RSVP protocol, as taught by Elleson, to effectively communicate the resources necessary for accommodating a reservation to each transit node and the end node along the path to the destination address.

Response to Arguments

5. Applicant's arguments filed 3/22/2004 have been fully considered but they are not persuasive.

- On pg. 10 of the Arguments, the Applicant contends that Bertin does not disclose or suggest a method or system for allocating resources on a network including "receiving data indicating an activation time that the resources are to be activated."
- It is the Examiner's opinion that Bertin does disclose the receiving of data, in the form of Bandwidth Replies from the transit and end nodes along each link of the intended route that indicate a successful reservation, wherein the reserved resources are to be activated at that immediate time.
- Furthermore, Bertin discloses the exchange of control messages between Routing Points at a time when new connections are activated, thereby maintaining the topology of the network at each node so network resource management and utilization can be optimized.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Prieto, Jr. et al. (US006381228B1) discloses onboard control of demand assigned multiple access protocol for satellite ATM networks

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

GBS
5-17-2004



HASSAN KIZOU
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